SEQUENCE LISTING

<110> Hill, Ronald J.
      Hannan, Garry N.

<120> Genetic Sequences Encoding Steroid and Juvenile Hormone
      Receptor Polypeptides and Insecticidal Modalities
      Therefor

<130> 53-99

<140> 09/346,470
<141> 1999-07-01

<150> WO 99/00033
<151> 1999-01-15

<150> AU PP1356/98
<151> 1998-01-15

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<170> PatentIn Ver. 2.0

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atg tta gaa gaa tcc tcc tca gaa gta acc tcc tcc tca aat ggt ctg      96
Met Leu Glu Glu Ser Ser Ser Glu Val Thr Ser Ser Ser Asn Gly Leu
             20                  25                  30

gtc ttg tca tcg gat ata aat atg tca cct tcc tcg ttg gat tca ccc     144
Val Leu Ser Ser Asp Ile Asn Met Ser Pro Ser Ser Leu Asp Ser Pro
         35                  40                  45

gtt tat ggc gat cag gaa atg tgg ctg tgt aac gat tca gct tca tat     192
Val Tyr Gly Asp Gln Glu Met Trp Leu Cys Asn Asp Ser Ala Ser Tyr
     50                  55                  60
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Asn Asn Ser His Gln His Ser Val Ile Thr Ser Leu Gln Gly Cys Thr
 65                  70                  75                  80

tca tca ttg ccg gcc caa aca acc att ata cct ctg tca gct tta ccc    288
Ser Ser Leu Pro Ala Gln Thr Thr Ile Ile Pro Leu Ser Ala Leu Pro
                 85                  90                  95

aat tcc aat aat gcc tcc ctg aat aat caa aat caa aat tat caa aat    336
Asn Ser Asn Asn Ala Ser Leu Asn Asn Gln Asn Gln Asn Tyr Gln Asn
                 100                 105                 110

ggt aat tcc atg aat aca aat tta tcg gtt aac aca aat aac agt gtt    384
Gly Asn Ser Met Asn Thr Asn Leu Ser Val Asn Thr Asn Asn Ser Val
             115                 120                 125

gga gga ggt gga ggt ggt ggt ggt gta ccc ggt atg act tca ctc aat    432
Gly Gly Gly Gly Gly Gly Gly Gly Val Pro Gly Met Thr Ser Leu Asn
         130         .   .   135                 140

ggt ctg ggt ggt ggt ggt ggc agt caa gtg aat aat cac aat cac agc    480
Gly Leu Gly Gly Gly Gly Gly Ser Gln Val Asn Asn His Asn His Ser
145                 150                 155                 160

cac aat cat tta cac cac aac agc aac agt aat cac agt aat agc agt    528
His Asn His Leu His His Asn Ser Asn Ser Asn His Ser Asn Ser Ser
             165                 170                 175

tcc cac cac aca aat ggc cac atg ggt att ggc ggc ggt ggt ggt ggc    576
Ser His His Thr Asn Gly His Met Gly Ile Gly Gly Gly Gly Gly Gly
             180                 185                 190

tta tcg gtc aat att aat ggt ccc aat atc gtt agc aat gcc caa cag    624
Leu Ser Val Asn Ile Asn Gly Pro Asn Ile Val Ser Asn Ala Gln Gln
         195                 200                 205

tta aac tcg tta cag gcc tca caa aat ggc caa gtt att cat gcc aat    672
Leu Asn Ser Leu Gln Ala Ser Gln Asn Gly Gln Val Ile His Ala Asn
         210                 215                 220

att ggc att cac agt atc atc agt aat gga tta aat cat cat cac cat    720
Ile Gly Ile His Ser Ile Ile Ser Asn Gly Leu Asn His His His His
225                 230                 235                 240

cat cat atg aat aac agt agt atg atg cat cat aca ccc aga tct gaa    768
His His Met Asn Asn Ser Ser Met Met His His Thr Pro Arg Ser Glu
             245                 250                 255

tca gct aat tcc ata tca tca ggt cgt gat gat ctt tca ccc tcg agc    816
Ser Ala Asn Ser Ile Ser Ser Gly Arg Asp Asp Leu Ser Pro Ser Ser
             260                 265                 270
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agt ctt aat ggc ttc tca aca agc gat gct agt gat gtt aag aaa atc      864
Ser Leu Asn Gly Phe Ser Thr Ser Asp Ala Ser Asp Val Lys Lys Ile
        275                 280                 285

aaa aaa ggt cct gcg ccc cgt tta caa gag gaa ctg tgt ctg gtg tgt      912
Lys Lys Gly Pro Ala Pro Arg Leu Gln Glu Glu Leu Cys Leu Val Cys
        290                 295                 300

ggt gat cgg gcg tcc ggt tat cat tat aac gca ctc acc tgt gaa ggc      960
Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly
305                 310                 315                 320

tgt aag ggg ttc ttt cga cgg agt gtt acc aaa aat gcg gtg tat tgt     1008
Cys Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn Ala Val Tyr Cys
                325                 330                 335

tgt aaa ttt ggt cat gcc tgc gaa atg gac atg tat atg cga cgt aaa     1056
Cys Lys Phe Gly His Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys
                340                 345                 350

tgt cag gaa tgt agg ctg aaa aaa tgt ttg gct gtg ggc atg cgg ccg     1104
Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro
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gaa tgt gtg gtg ccc gaa aac cag tgt gca atg aaa cga cgc gaa aag     1152
Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Arg Glu Lys
        370                 375                 380

aaa gca caa aaa gag aag gat aaa ata cag acc agt gtg tgt gca acg     1200
Lys Ala Gln Lys Glu Lys Asp Lys Ile Gln Thr Ser Val Cys Ala Thr
385                 390                 395                 400

gaa att aaa aag gaa ata ctc gat tta atg aca tgt gaa ccg cca tca     1248
Glu Ile Lys Lys Glu Ile Leu Asp Leu Met Thr Cys Glu Pro Pro Ser
                405                 410                 415

cat cca acg tgt ccg ctg tta cct gaa gac att ttg gct aaa tgt caa     1296
His Pro Thr Cys Pro Leu Leu Pro Glu Asp Ile Leu Ala Lys Cys Gln
                420                 425                 430

gct cgt aat ata cct cct tta tcg tac aat caa ttg gca gtt ata tat     1344
Ala Arg Asn Ile Pro Pro Leu Ser Tyr Asn Gln Leu Ala Val Ile Tyr
                435                 440                 445

aaa tta ata tgg tat caa gat ggc tac gaa cag cca tcc gag gaa gat     1392
Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu Glu Asp
        450                 455                 460

ctc aaa cgt ata atg agt tca ccc gat gaa aat gaa agt caa cac gat     1440
Leu Lys Arg Ile Met Ser Ser Pro Asp Glu Asn Glu Ser Gln His Asp
465                 470                 475                 480
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gca tca ttt cgt cat ata aca gaa atc act ata cta aca gta caa tta    1488
Ala Ser Phe Arg His Ile Thr Glu Ile Thr Ile Leu Thr Val Gln Leu
            485                 490                 495

att gtg gaa ttt gcc aag ggt ttg cca gcg ttt acc aaa ata cca caa    1536
Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe Thr Lys Ile Pro Gln
            500                 505                 510

gag gat caa ata aca cta tta aag gcc tgc tca tca gaa gtt atg atg    1584
Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met
            515                 520                 525

ttg cga atg gca cga cgt tac gat cac aat tca gat tcg ata ttc ttt    1632
Leu Arg Met Ala Arg Arg Tyr Asp His Asn Ser Asp Ser Ile Phe Phe
            530                 535                 540

gcc aat aat cga tcg tat acg cgt gac tct tat aaa atg gct ggc atg    1680
Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala Gly Met
545                   .  .550                 555                 560

gct gat aat att gag gat ctg ctg cat ttc tgt cga caa atg tac tcg    1728
Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys Arg Gln Met Tyr Ser
            565                 570                 575

atg aaa gtg gac aat gtc gaa tat gct cta ctc act gcc att gtg atc    1776
Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile Val Ile
            580                 585                 590

ttt tcc gat cgg ccg ggt ctc gaa gaa gcc gaa cta gtc gaa gcg ata    1824
Phe Ser Asp Arg Pro Gly Leu Glu Glu Ala Glu Leu Val Glu Ala Ile
            595                 600                 605

caa agt tac tac atc gat aca ctc cgc att tac ata ctt aat cgc cat    1872
Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn Arg His
            610                 615                 620

tgc ggc gat ccc atg agt ctc gta ttc ttt gcc aag ctt ctg tca att    1920
Cys Gly Asp Pro Met Ser Leu Val Phe Phe Ala Lys Leu Leu Ser Ile
625                   630                 635                 640

cta acc gaa ctg cgt acg ttg ggc aat caa aat gcc gaa atg tgt ttc    1968
Leu Thr Glu Leu Arg Thr Leu Gly Asn Gln Asn Ala Glu Met Cys Phe
            645                 650                 655

tcg ttg aaa ttg aaa aat cgc aaa ctg cca aaa ttc ctc gaa gag atc    2016
Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu Glu Ile
            660                 665                 670

tgg gat gta cat gcc att cca ccc tca gtg cag tca cac ata cag gct    2064
Trp Asp Val His Ala Ile Pro Pro Ser Val Gln Ser His Ile Gln Ala
            675                 680                 685
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acc cag gcg gaa aag gcc gcc cag gaa gct cag gca aca aca tcg gcc      2112
Thr Gln Ala Glu Lys Ala Ala Gln Glu Ala Gln Ala Thr Thr Ser Ala
        690                 695             700

att tca gca gcc gcc acc tca tct tcc tcc ata aat acc tcg atg gca      2160
Ile Ser Ala Ala Ala Thr Ser Ser Ser Ser Ile Asn Thr Ser Met Ala
705                 710             715                 720

aca tca tcc tca tca tcg tta tcg cca tcg gcg gcc tca aca ccc aat      2208
Thr Ser Ser Ser Ser Ser Leu Ser Pro Ser Ala Ala Ser Thr Pro Asn
                    725             730             735

ggt ggt gcc gtc gat tat gtt ggc acc gat atg agt atg agt tta gta      2256
Gly Gly Ala Val Asp Tyr Val Gly Thr Asp Met Ser Met Ser Leu Val
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caa tcg gat aat gca tag                                              2274
Gln Ser Asp Asn Ala
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Val Leu Ser Ser Asp Ile Asn Met Ser Pro Ser Ser Leu Asp Ser Pro
            35                  40                  45

Val Tyr Gly Asp Gln Glu Met Trp Leu Cys Asn Asp Ser Ala Ser Tyr
        50                  55                  60

Asn Asn Ser His Gln His Ser Val Ile Thr Ser Leu Gln Gly Cys Thr
 65                  70                  75                  80

Ser Ser Leu Pro Ala Gln Thr Thr Ile Ile Pro Leu Ser Ala Leu Pro
                85                  90                  95

Asn Ser Asn Asn Ala Ser Leu Asn Asn Gln Asn Gln Asn Tyr Gln Asn
                100                 105                 110

Gly Asn Ser Met Asn Thr Asn Leu Ser Val Asn Thr Asn Asn Ser Val
                115                 120                 125
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Gly Gly Gly Gly Gly Gly Gly Gly Val Pro Gly Met Thr Ser Leu Asn
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Gly Leu Gly Gly Gly Gly Gly Ser Gln Val Asn Asn His Asn His Ser
145               150           155               160

His Asn His Leu His His Asn Ser Asn Ser Asn His Ser Asn Ser Ser
                165           170               175

Ser His His Thr Asn Gly His Met Gly Ile Gly Gly Gly Gly Gly Gly
            180           185               190

Leu Ser Val Asn Ile Asn Gly Pro Asn Ile Val Ser Asn Ala Gln Gln
        195           200           205

Leu Asn Ser Leu Gln Ala Ser Gln Asn Gly Gln Val Ile His Ala Asn
    210               215           220

Ile Gly Ile His Ser Ile Ile Ser Asn Gly Leu Asn His His His His
225               230           235               240

His His Met Asn Asn Ser Ser Met Met His His Thr Pro Arg Ser Glu
            245           250               255

Ser Ala Asn Ser Ile Ser Ser Gly Arg Asp Asp Leu Ser Pro Ser Ser
            260           265               270

Ser Leu Asn Gly Phe Ser Thr Ser Asp Ala Ser Asp Val Lys Lys Ile
        275           280           285

Lys Lys Gly Pro Ala Pro Arg Leu Gln Glu Glu Leu Cys Leu Val Cys
    290           295           300

Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly
305               310           315               320

Cys Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn Ala Val Tyr Cys
            325           330               335

Cys Lys Phe Gly His Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys
            340           345               350

Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro
        355           360           365

Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Arg Glu Lys
    370           375           380

Lys Ala Gln Lys Glu Lys Asp Lys Ile Gln Thr Ser Val Cys Ala Thr
385               390           395               400
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Glu Ile Lys Lys Glu Ile Leu Asp Leu Met Thr Cys Glu Pro Pro Ser
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His Pro Thr Cys Pro Leu Leu Pro Glu Asp Ile Leu Ala Lys Cys Gln
            420             425             430

Ala Arg Asn Ile Pro Pro Leu Ser Tyr Asn Gln Leu Ala Val Ile Tyr
            435             440             445

Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu Glu Asp
        450             455             460

Leu Lys Arg Ile Met Ser Ser Pro Asp Glu Asn Glu Ser Gln His Asp
465             470             475             480

Ala Ser Phe Arg His Ile Thr Glu Ile Thr Ile Leu Thr Val Gln Leu
            485             490             495

Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe Thr Lys Ile Pro Gln
            500             505             510

Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met
            515             520             525

Leu Arg Met Ala Arg Arg Tyr Asp His Asn Ser Asp Ser Ile Phe Phe
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Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala Gly Met
545             550             555             560

Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys Arg Gln Met Tyr Ser
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Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile Val Ile
            580             585             590

Phe Ser Asp Arg Pro Gly Leu Glu Glu Ala Glu Leu Val Glu Ala Ile
        595             600             605

Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn Arg His
    610             615             620

Cys Gly Asp Pro Met Ser Leu Val Phe Phe Ala Lys Leu Leu Ser Ile
625             630             635             640

Leu Thr Glu Leu Arg Thr Leu Gly Asn Gln Asn Ala Glu Met Cys Phe
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Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu Glu Ile
            660             665             670
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Trp Asp Val His Ala Ile Pro Pro Ser Val Gln Ser His Ile Gln Ala
        675                 680                 685

Thr Gln Ala Glu Lys Ala Ala Gln Glu Ala Gln Ala Thr Thr Ser Ala
        690                 695                 700

Ile Ser Ala Ala Ala Thr Ser Ser Ser Ser Ile Asn Thr Ser Met Ala
705                 710                 715                 720

Thr Ser Ser Ser Ser Ser Leu Ser Pro Ser Ala Ala Ser Thr Pro Asn
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Gly Gly Ala Val Asp Tyr Val Gly Thr Asp Met Ser Met Ser Leu Val
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Gln Ser Asp Asn Ala
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 1               5                  10                  15

ccg cag gag ata aag cca gac att tca cta ctc aat gaa aat aat acg    96
Pro Gln Glu Ile Lys Pro Asp Ile Ser Leu Leu Asn Glu Asn Asn Thr
            20                  25                  30

agt agt tat tcg ccc aaa cct gga agt cct aat cca ttt gcc atc gga   144
Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro Phe Ala Ile Gly
            35                  40                  45

ttg cag gca ata aat gca gtc gct gcc gcg aat gcc aat aac caa aat   192
Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala Asn Asn Gln Asn
        50                  55                  60

caa atg ttg caa act acg cca cca caa cag cag cag tat cca cca aat   240
Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln Tyr Pro Pro Asn
 65                  70                  75                  80
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cac ccc ctt agt ggt tcg aaa cac ttg tgt tcc att tgt gga gac cgc    288
His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile Cys Gly Asp Arg
                85                  90                  95

gcc agt gga aaa cat tat ggg gtc tac agt tgt gag ggt tgt aaa ggg    336
Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly
               100                 105                 110

ttc ttc aaa cgt acc gta cgc aag gac ttg aca tat gct tgt cgt gag    384
Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Ala Cys Arg Glu
               115                 120                 125

gac aga aat tgc att ata gat aaa cga caa aga aat cgt tgc cag tat    432
Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr
               130                 135                 140

tgt cgt tat caa aag tgt tta gct tgt ggc atg aaa cgc gaa gcg gtc    480
Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys Arg Glu Ala Val
145                 150                 155                 160

caa gag gaa cga caa cgt ggt act cgt gct gct aac gct aga gct gct    528
Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn Ala Arg Ala Ala
               165                 170                 175

ggt gct ggc ggt ggt gga gga ggt ggt ggt ggg gta agc aat gtg gtt    576
Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Val Ser Asn Val Val
               180                 185                 190

ggt gct ggc gga gaa gac ttt aaa ccc agc agt tca tta cgt gat ctc    624
Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser Leu Arg Asp Leu
               195                 200                 205

act ata gaa cgc atc att gaa gcc gag caa aag gct gaa tct ttg agc    672
Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala Glu Ser Leu Ser
               210                 215                 220

ggt gat aac gtg ttg ccc ttt ttg cgc gtt ggc aac aat tcc atg gta    720
Gly Asp Asn Val Leu Pro Phe Leu Arg Val Gly Asn Asn Ser Met Val
225                 230                 235                 240

caa cac gac tac aaa ggc gcg gta tct cat ctc tgc cag atg gtt aac    768
Gln His Asp Tyr Lys Gly Ala Val Ser His Leu Cys Gln Met Val Asn
               245                 250                 255

aaa caa ctc tac caa atg gtt gaa tat gca cgt cga aca cca cat ttt    816
Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg Thr Pro His Phe
               260                 265                 270

aca cat ttg cag cgt gag gat cag ata cta ttg tta aag gct ggc tgg    864
Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu Lys Ala Gly Trp
               275                 280                 285
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aat gaa ctg cta att gca aat gtt gcc tgg tgc agt att gag tct ctg     912
Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser Ile Glu Ser Leu
    290             295             300

gat gcc gaa tat gcc tct cct ggt acg gta cat gac ggt tct ttt ggt     960
Asp Ala Glu Tyr Ala Ser Pro Gly Thr Val His Asp Gly Ser Phe Gly
305             310             315             320

cgg cgt tca cca gtg cgt cag ccc caa caa ctc ttc ctt aat cag aat    1008
Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe Leu Asn Gln Asn
            325             330             335

ttc tcg tat cat cgc aat agt gct att aag gcc aat gtt gtt tca att    1056
Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn Val Val Ser Ile
            340             345             350

ttc gat cgt atc ctc tcg gag ttg agc atc aaa atg aaa cgt ctt aac    1104
Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met Lys Arg Leu Asn
            355             360             365

atc gat cgc tcg gag ttg tcg tgt ctg aag gca atc ata ctc ttc aat    1152
Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile Ile Leu Phe Asn
    370             375             380

cca gac ata cgc ggt ctg aaa tgt cga gcc gac gtc gag gta tgt cgt    1200
Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val Glu Val Cys Arg
385             390             395             400

gaa aaa atc tat gcc tgt ctg gac gaa cac tgc cgc aca gaa cat cca    1248
Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg Thr Glu His Pro
                405             410             415

ggt gat gat ggc cgc ttt gct cag cta cta cta agg ttg ccc gca ttg    1296
Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg Leu Pro Ala Leu
            420             425             430

cgt tcc atc agt ctc aaa tgt ctc gat cat ttg ttt ttc ttc cgt tta    1344
Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe Phe Phe Arg Leu
            435             440             445

ata ggc gaa aga gca ttg gag gaa tta att gct gag caa ttg gaa gct    1392
Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu Gln Leu Glu Ala
    450             455             460

cct atc tgc                                                         1401
Pro Ile Cys
465
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                20   25   30

Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro Phe Ala Ile Gly
            35   40   45

Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala Asn Asn Gln Asn
        50   55   60

Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln Tyr Pro Pro Asn
65   70   75   80

His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile Cys Gly Asp Arg
                85   90   95

Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly
            100   105   110

Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Ala Cys Arg Glu
            115   120   125

Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr
130   135   140

Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys Arg Glu Ala Val
145   150   155   160

Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn Ala Arg Ala Ala
                165   170   175

Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Val Ser Asn Val Val
            180   185   190

Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser Leu Arg Asp Leu
            195   200   205

Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala Glu Ser Leu Ser
210   215   220

Gly Asp Asn Val Leu Pro Phe Leu Arg Val Gly Asn Asn Ser Met Val
225   230   235   240

Gln His Asp Tyr Lys Gly Ala Val Ser His Leu Cys Gln Met Val Asn
                    245   250   255

Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg Thr Pro His Phe
                260   265   270

Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu Lys Ala Gly Trp
            275   280   285

Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser Ile Glu Ser Leu
    290   295   300

Asp Ala Glu Tyr Ala Ser Pro Gly Thr Val His Asp Gly Ser Phe Gly
305   310   315   320

Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe Leu Asn Gln Asn
                325   330   335

Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn Val Val Ser Ile
                340   345   350

Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met Lys Arg Leu Asn
                355   360   365

Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile Ile Leu Phe Asn
    370   375   380

Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val Glu Val Cys Arg
385   390   395   400

Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg Thr Glu His Pro
                405   410   415

Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg Leu Pro Ala Leu
                420   425   430

Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe Phe Phe Arg Leu
            435   440   445

Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu Gln Leu Glu Ala
    450   455   460

Pro Ile Cys
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1               5                   10                  15

ttg atc ctt att ttt ctt ctt ctt ttt ctt tgg agg ttg ttg gcc ttc   96
Leu Ile Leu Ile Phe Leu Leu Leu Phe Leu Trp Arg Leu Leu Ala Phe
                20                  25                  30

cgg ttc ttg ttt ata tct gaa caa cca cct ccc gaa gag ctg tgc ctg  144
Arg Phe Leu Phe Ile Ser Glu Gln Pro Pro Pro Glu Glu Leu Cys Leu
            35                  40                  45

gtg tgt ggc gac cgg tcg tcc ggt tac cat tac aac gct ctc aca tgc  192
Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys
        50                  55                  60

gaa gga tgc aag ggg ttc ttc cgg agg agc atc acc aag aac gcc gtg  240
Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val
65                  70                  75                  80

tac cag tgc aag tac ggc aac aat tgc gaa atc gac atg tac atg agg  288
Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr Met Arg
                85                  90                  95

cgg aag tgc cag gag tgc cgg ctg aaa aaa tgc ctg acc gtc ggc atg  336
Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val Gly Met
            100                 105                 110

agg cct gaa tgt gtt gta cct gaa gtt caa tgc gca gta aaa aga aag  384
Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys Arg Lys
        115                 120                 125

gag aaa aaa gct caa cga gaa aaa gat aaa cca aat tct act aca gac  432
Glu Lys Lys Ala Gln Arg Glu Lys Asp Lys Pro Asn Ser Thr Thr Asp
        130                 135                 140

att tct cct gaa ata ata aaa ata gaa cct aca gag atg aag att gaa  480
Ile Ser Pro Glu Ile Ile Lys Ile Glu Pro Thr Glu Met Lys Ile Glu
145                 150                 155                 160

tgt ggt gaa cca atg ata atg ggc aca cct atg ccg act gta cct tac  528
Cys Gly Glu Pro Met Ile Met Gly Thr Pro Met Pro Thr Val Pro Tyr
                165                 170                 175
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gtg aaa cct ttg agt tct ctc gtg ccg aat tcg gca cga gtc acg ggt    576
Val Lys Pro Leu Ser Ser Leu Val Pro Asn Ser Ala Arg Val Thr Gly
            180             185             190

tac aaa ttt                                                        585
Tyr Lys Phe
        195
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<210> 6
<211> 195
<212> PRT
<213> Myzus persicae

<400> 6

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Glu Phe Gly Thr Ser Ala Ile Val Asn Gly Phe Ile Arg Thr Ile Ser
 1               5               10              15

Leu Ile Leu Ile Phe Leu Leu Leu Phe Leu Trp Arg Leu Leu Ala Phe
            20              25              30

Arg Phe Leu Phe Ile Ser Glu Gln Pro Pro Pro Glu Glu Leu Cys Leu
        35              40              45

Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys
    50              55              60

Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val
65              70              75              80

Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr Met Arg
            85              90              95

Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val Gly Met
            100             105             110

Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys Arg Lys
        115             120             125

Glu Lys Lys Ala Gln Arg Glu Lys Asp Lys Pro Asn Ser Thr Thr Asp
    130             135             140

Ile Ser Pro Glu Ile Ile Lys Ile Glu Pro Thr Glu Met Lys Ile Glu
145             150             155             160

Cys Gly Glu Pro Met Ile Met Gly Thr Pro Met Pro Thr Val Pro Tyr
            165             170             175

Val Lys Pro Leu Ser Ser Leu Val Pro Asn Ser Ala Arg Val Thr Gly
            180             185             190
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Tyr Lys Phe
        195

<210> 7
<211> 208
<212> DNA
<213> Myzus persicae

<400> 7
catgcctgca ggtcgactct agaggatccc ctcgtccggt taccattaca acgcactcac 60

ctgtgaaggc tgtaagggtt tctttcgacg gagtgttacc aaaaatgcgg tgtattgttg 120

taaatttggt catgcctgcg aaatggacat gtatatgcga cgtaaatgtc aggaatgtag 180

gctgaaaaaa tgtttggctg tgggcatg   208

<210> 8
<211> 436
<212> DNA
<213> Myzus persicae

<400> 8
catgcggccg gaatgtgtgg tgcccgaaaa ccagtgtgca atgaaacgac gcgaaaagaa 60

agcacaaaaa gagaaggata aaatacagac cagtgtgtgt gcaacggaaa ttaaaaagga 120

aatactcgat ttaatgacat gtgaaccgcc atcacatcca acgtgtccgc tgttacctga 180

agacattttg gctaaatgtc aagctcgtaa tatacctcct ttatcgtaca atcaattggc 240

agttatatat aaattaatat ggtatcaaga tggctacgaa cagccatccg aggaagatct 300

caaacgtata atgagttcac ccgatgaaaa tgaaagtcaa cacgatgcat catttcgtca 360

tataacagaa atcactatac taacagtaca attaattgtt gaatgtgcca aaggtctagg 420

gtaccgagct cgaatt   436

<210> 9
<211> 1797
<212> DNA
<213> Myzus persicae

<220>
<221> CDS
<222> (1)..(1797)

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atg atg gac cag aaa tgt gac gtc ggc ggt ggt ggt gtc gct gct gcc      48
Met Met Asp Gln Lys Cys Asp Val Gly Gly Gly Gly Val Ala Ala Ala
 1               5                  10                  15

gcc gcc ggt atc ggt ggc ggc ggt gtc ggc ggc ctc atg tcg tac aac      96
Ala Ala Gly Ile Gly Gly Gly Gly Val Gly Gly Leu Met Ser Tyr Asn
                20                  25                  30

cgt ggc cgt ggc ggc acc gag gtc atc atc aaa ccc cgt agt cct gcc     144
Arg Gly Arg Gly Gly Thr Glu Val Ile Ile Lys Pro Arg Ser Pro Ala
            35                  40                  45

gtg gtg cag gtg gcc acc ggt ggc agt tac cac ggc ctg ccg gcg gcc     192
Val Val Gln Val Ala Thr Gly Gly Ser Tyr His Gly Leu Pro Ala Ala
        50                  55                  60

tcc gac gcc gtc atc gtg cgc agc ccg cca ggc ggc cac ttg ccc ggg     240
Ser Asp Ala Val Ile Val Arg Ser Pro Pro Gly Gly His Leu Pro Gly
 65                  70                  75                  80

ccg cag cag caa gtg ccg ccg tcc cgc aac ggc tgt tcc acc ctg ttt     288
Pro Gln Gln Gln Val Pro Pro Ser Arg Asn Gly Cys Ser Thr Leu Phe
                85                  90                  95

agc gac atc gct ggc gtc aag cga ctc agg ccc gac gat tgg ttg gcc     336
Ser Asp Ile Ala Gly Val Lys Arg Leu Arg Pro Asp Asp Trp Leu Ala
               100                 105                 110

gtc aac tcg ccg ccc gcc tct tcg ccc ggc acg tcg cac ata tcc tac     384
Val Asn Ser Pro Pro Ala Ser Ser Pro Gly Thr Ser His Ile Ser Tyr
           115                 120                 125

aca gtc ata tcg aac ggc ggc ggc ggt ggc ggc ggt ggc ggc ggt ggt     432
Thr Val Ile Ser Asn Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
           130                 135                 140

tac aac acg tct cca atg tcg acc aac agc tac gac ccg tac agt ccg     480
Tyr Asn Thr Ser Pro Met Ser Thr Asn Ser Tyr Asp Pro Tyr Ser Pro
145                 150                 155                 160

atg agt gga aaa atc gtc aaa gaa gag ttg tct ccg cca aac agc ctg     528
Met Ser Gly Lys Ile Val Lys Glu Glu Leu Ser Pro Pro Asn Ser Leu
                165                 170                 175

tcg gga gtc agc agc cat tcg gat ggg ttg aag aag aag aaa ctc aac     576
Ser Gly Val Ser Ser His Ser Asp Gly Leu Lys Lys Lys Lys Leu Asn
            180                 185                 190
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cac acg ccc tcg acc ggt gtc gtc aac acc tcg gca tcg ggc ccc ggg      624
His Thr Pro Ser Thr Gly Val Val Asn Thr Ser Ala Ser Gly Pro Gly
        195             200                 205

ggt ggc gtt ggt ggc aat gtg ctg aac aac cga cct ccc gaa gag ctg      672
Gly Gly Val Gly Gly Asn Val Leu Asn Asn Arg Pro Pro Glu Glu Leu
        210             215                 220

tgc ctg gtg tgt ggc gac cgg tcg tcc ggt tac cat tac aac gct ctc      720
Cys Leu Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu
225             230                 235                 240

aca tgc gaa gga tgc aag ggg ttc ttc cgg agg agc atc acc aag aac      768
Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn
                245                 250                 255

gcc gtg tac cag tgc aag tac ggc aac aat tgc gaa atc gac atg tac      816
Ala Val Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr
                260                 265                 270

atg agg cgg aag tgc cag gag tgc cgg ctg aaa aaa tgc ctg acc gtc      864
Met Arg Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val
            275                 280                 285

ggc atg agg cct gaa tgt gtt gta cct gaa gtt caa tgc gca gta aaa      912
Gly Met Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys
        290                 295                 300

aga aag gag aaa aaa gct caa cga gaa aaa gat aaa cca aat tct act      960
Arg Lys Glu Lys Lys Ala Gln Arg Glu Lys Asp Lys Pro Asn Ser Thr
305             310                 315                 320

aca gac att tct cct gaa ata ata aaa ata gaa cct aca gag atg aag      1008
Thr Asp Ile Ser Pro Glu Ile Ile Lys Ile Glu Pro Thr Glu Met Lys
                325                 330                 335

att gaa tgt ggt gaa cca atg ata atg ggc aca cct atg ccg act gta      1056
Ile Glu Cys Gly Glu Pro Met Ile Met Gly Thr Pro Met Pro Thr Val
                340                 345                 350

cct tac gtg aaa cct ttg agt tct gaa caa aaa gaa ctg atc cac cga      1104
Pro Tyr Val Lys Pro Leu Ser Ser Glu Gln Lys Glu Leu Ile His Arg
                355                 360                 365

ctt gtc tat ttc cag gat caa tat gaa gct cct agt gaa aaa gac atg      1152
Leu Val Tyr Phe Gln Asp Gln Tyr Glu Ala Pro Ser Glu Lys Asp Met
        370                 375                 380

aaa cgt tta aca ata aat aat caa aat atg gat gaa tat gat gaa gaa      1200
Lys Arg Leu Thr Ile Asn Asn Gln Asn Met Asp Glu Tyr Asp Glu Glu
385                 390                 395                 400
```

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aaa caa agt gac acc aca tat cga atc atc act gag atg aca ata ctc      1248
Lys Gln Ser Asp Thr Thr Tyr Arg Ile Ile Thr Glu Met Thr Ile Leu
                405             410             415

aca gtt caa ctg att gtt gag ttt gcc aaa cga tta cca ggt ttc gat      1296
Thr Val Gln Leu Ile Val Glu Phe Ala Lys Arg Leu Pro Gly Phe Asp
                420             425             430

aaa ctt gta aga gaa gat caa atc act tta ctc aag gct tgc tca agt      1344
Lys Leu Val Arg Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser
                435             440             445

gaa gct atg atg ttc agg gta gca agg aag tat gac atc acc act gac      1392
Glu Ala Met Met Phe Arg Val Ala Arg Lys Tyr Asp Ile Thr Thr Asp
        450             455             460

tca ata gtg ttt gct aac aac cag cca ttt tca gct gat tca tat aac      1440
Ser Ile Val Phe Ala Asn Asn Gln Pro Phe Ser Ala Asp Ser Tyr Asn
465             470             475             480

aaa gct gga ttg gga gat gcc att gaa aac caa ctg tca ttc agt cgg      1488
Lys Ala Gly Leu Gly Asp Ala Ile Glu Asn Gln Leu Ser Phe Ser Arg
                485             490             495

ttt atg tac aat atg aag gtg gat aac gca gaa tat gcc tta ttg acc      1536
Phe Met Tyr Asn Met Lys Val Asp Asn Ala Glu Tyr Ala Leu Leu Thr
                500             505             510

gcc atc gtc ata ttt tcg agt agg cca aat tta cta gat ggt tgg aaa      1584
Ala Ile Val Ile Phe Ser Ser Arg Pro Asn Leu Leu Asp Gly Trp Lys
                515             520             525

gtg gag aaa atc caa gaa atc tac cta gag tcc tta aaa gct tat gta      1632
Val Glu Lys Ile Gln Glu Ile Tyr Leu Glu Ser Leu Lys Ala Tyr Val
        530             535             540

gat aat cga gac cgt gac aca gca act gta cga tat gcg cga ctt ctc      1680
Asp Asn Arg Asp Arg Asp Thr Ala Thr Val Arg Tyr Ala Arg Leu Leu
545             550             555             560

tca gta ctt aca gaa ttg cgc aca tta ggc aat gaa aac tct gag cta      1728
Ser Val Leu Thr Glu Leu Arg Thr Leu Gly Asn Glu Asn Ser Glu Leu
                565             570             575

tgt atg aca ctg aaa ctg aaa aac aga gta gta ccc cca ttc ttg gcc      1776
Cys Met Thr Leu Lys Leu Lys Asn Arg Val Val Pro Pro Phe Leu Ala
                580             585             590

gaa ata tgg gat gtc atg cca                                          1797
Glu Ile Trp Asp Val Met Pro
                595
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<210> 10
<211> 599
<212> PRT
<213> Myzus persicae

<400> 10

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Met Met Asp Gln Lys Cys Asp Val Gly Gly Gly Gly Val Ala Ala Ala
 1               5                  10                  15

Ala Ala Gly Ile Gly Gly Gly Gly Val Gly Gly Leu Met Ser Tyr Asn
             20                  25                  30

Arg Gly Arg Gly Gly Thr Glu Val Ile Ile Lys Pro Arg Ser Pro Ala
         35                  40                  45

Val Val Gln Val Ala Thr Gly Gly Ser Tyr His Gly Leu Pro Ala Ala
     50                  55                  60

Ser Asp Ala Val Ile Val Arg Ser Pro Pro Gly Gly His Leu Pro Gly
 65                  70                  75                  80

Pro Gln Gln Gln Val Pro Pro Ser Arg Asn Gly Cys Ser Thr Leu Phe
                 85                  90                  95

Ser Asp Ile Ala Gly Val Lys Arg Leu Arg Pro Asp Asp Trp Leu Ala
            100                 105                 110

Val Asn Ser Pro Pro Ala Ser Ser Pro Gly Thr Ser His Ile Ser Tyr
        115                 120                 125

Thr Val Ile Ser Asn Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
    130                 135                 140

Tyr Asn Thr Ser Pro Met Ser Thr Asn Ser Tyr Asp Pro Tyr Ser Pro
145                 150                 155                 160

Met Ser Gly Lys Ile Val Lys Glu Glu Leu Ser Pro Pro Asn Ser Leu
                165                 170                 175

Ser Gly Val Ser Ser His Ser Asp Gly Leu Lys Lys Lys Leu Asn
            180                 185                 190

His Thr Pro Ser Thr Gly Val Val Asn Thr Ser Ala Ser Gly Pro Gly
        195                 200                 205

Gly Gly Val Gly Gly Asn Val Leu Asn Asn Arg Pro Pro Glu Glu Leu
    210                 215                 220

Cys Leu Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu
225                 230                 235                 240
```

```
Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn
            245             250             255

Ala Val Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr
            260             265             270

Met Arg Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val
            275             280             285

Gly Met Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys
    290             295             300

Arg Lys Glu Lys Lys Ala Gln Arg Glu Lys Asp Lys Pro Asn Ser Thr
305             310             315             320

Thr Asp Ile Ser Pro Glu Ile Ile Lys Ile Glu Pro Thr Glu Met Lys
            325             330             335

Ile Glu Cys Gly Glu Pro Met Ile Met Gly Thr Pro Met Pro Thr Val
            340             345             350

Pro Tyr Val Lys Pro Leu Ser Ser Glu Gln Lys Glu Leu Ile His Arg
            355             360             365

Leu Val Tyr Phe Gln Asp Gln Tyr Glu Ala Pro Ser Glu Lys Asp Met
            370             375             380

Lys Arg Leu Thr Ile Asn Asn Gln Asn Met Asp Glu Tyr Asp Glu Glu
385             390             395             400

Lys Gln Ser Asp Thr Thr Tyr Arg Ile Ile Thr Glu Met Thr Ile Leu
            405             410             415

Thr Val Gln Leu Ile Val Glu Phe Ala Lys Arg Leu Pro Gly Phe Asp
            420             425             430

Lys Leu Val Arg Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser
            435             440             445

Glu Ala Met Met Phe Arg Val Ala Arg Lys Tyr Asp Ile Thr Thr Asp
    450             455             460

Ser Ile Val Phe Ala Asn Asn Gln Pro Phe Ser Ala Asp Ser Tyr Asn
465             470             475             480

Lys Ala Gly Leu Gly Asp Ala Ile Glu Asn Gln Leu Ser Phe Ser Arg
            485             490             495

Phe Met Tyr Asn Met Lys Val Asp Asn Ala Glu Tyr Ala Leu Leu Thr
            500             505             510
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Ala Ile Val Ile Phe Ser Ser Arg Pro Asn Leu Leu Asp Gly Trp Lys
     515   520   525

Val Glu Lys Ile Gln Glu Ile Tyr Leu Glu Ser Leu Lys Ala Tyr Val
     530   535   540

Asp Asn Arg Asp Arg Asp Thr Ala Thr Val Arg Tyr Ala Arg Leu Leu
545   550   555   560

Ser Val Leu Thr Glu Leu Arg Thr Leu Gly Asn Glu Asn Ser Glu Leu
     565   570   575

Cys Met Thr Leu Lys Leu Lys Asn Arg Val Val Pro Pro Phe Leu Ala
     580   585   590

Glu Ile Trp Asp Val Met Pro
     595

<210> 11
<211> 1131
<212> DNA
<213> Myzus persicae

<220>
<221> CDS
<222> (1)..(1131)

<400> 11
atg tat tcc aac tcg tac acc atg tat tca agt gac aga tta tac agc   48
Met Tyr Ser Asn Ser Tyr Thr Met Tyr Ser Ser Asp Arg Leu Tyr Ser
 1   5   10   15

gtc gat cgg aac agt atg atg aat aat tct tgc aac gta caa gac tct   96
Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn Val Gln Asp Ser
        20   25   30

ccg aat tac ccg ccc aac cat cca ctc agc ggt tcg aaa cat ctg tgc   144
Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys
        35   40   45

tcc ata tgc ggc gat cgc gcc agt gga aaa cat tac gga gtc tac agc   192
Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser
     50   55   60

tgc gag ggg tgc aaa ggg ttc ttc aaa cgc aca gtg agg aaa aat ttg   240
Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asn Leu
65   70   75   80

tca tac gcg tgt cgc gaa gaa aac aaa tgc atc atc gac aag cgc caa   288
Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile Asp Lys Arg Gln

```
cga aat cgg tgc caa tac tgc agg tat caa aaa tgt ttg acc atg ggc   336
Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Thr Met Gly
            100             105             110

atg aaa aga gaa gct gtg cag gaa gaa aga caa cgt aca aaa gaa cga   384
Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Thr Lys Glu Arg
            115             120             125

gat cat aat aac atc gaa gtt gaa ccc acg agc agt tct aat act gat   432
Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser Ser Asn Thr Asp
            130             135             140

atg cca gtg gaa ctc ata tta agg gct gag aat aaa gct gat gct ata   480
Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys Ala Asp Ala Ile
145             150             155             160

aag act gaa caa cag tat ata gag caa cga cat cct caa cat act gtt   528
Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro Gln His Thr Val
            165             170             175

ggt gct att tgt caa gca act gac aag cag tta ata caa ctt gtt gaa   576
Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile Gln Leu Val Glu
            180             185             190

tgg gcc aag cat ata ccg cat ttt aaa aat tta cct cta ggc gat caa   624
Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro Leu Gly Asp Gln
            195             200             205

gtt tta tta ttg aga gct ggt tgg aat gag ttg atg att gca gca ttt   672
Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met Ile Ala Ala Phe
            210             215             220

tcc cat aga tca atc agt gta aaa gat ggt ata gtc tta gct act gga   720
Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val Leu Ala Thr Gly
225             230             235             240

ctt act gtt gac aga gat tca gct cac caa gct ggt gtt gaa gct ata   768
Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly Val Glu Ala Ile
            245             250             255

ttt gat cgt gta ctc act gaa ctc gtt gct aaa atg aga gat atg ggt   816
Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met Arg Asp Met Gly
            260             265             270

atg gat aga aca gag ctt ggc tgt ttg cgt act att att ctt ttt aat   864
Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile Ile Leu Phe Asn
            275             280             285

cca ggt tca aaa ggt ttg cag tct gtg aat gaa gtg caa gta ctg cgt   912
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Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val Gln Val Leu Arg
    290             295             300

gat aag gtt tat gtt gcg tta gaa gaa tat tgt cgt aca aca cat cca   960
Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg Thr Thr His Pro
305             310             315             320

gaa gaa cct gga cga ttt gct aaa cta ctt ctt cgg ctt cct tca tta   1008
Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ser Leu
            325             330             335

cgt tca att gga tta aaa tgt ctg gaa cat tta ttc ttt tat aaa ctt   1056
Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Tyr Lys Leu
            340             345             350

att ggc gat tcc cca att gat aca ttt tta atg gaa gtt ctc gaa tca   1104
Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu Val Leu Glu Ser
            355             360             365

tct tca cat gac gtt caa gta gct aca                               1131
Ser Ser His Asp Val Gln Val Ala Thr
            370             375


<210> 12
<211> 377
<212> PRT
<213> Myzus persicae

<400> 12
Met Tyr Ser Asn Ser Tyr Thr Met Tyr Ser Ser Asp Arg Leu Tyr Ser
1               5               10              15

Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn Val Gln Asp Ser
            20              25              30

Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys
            35              40              45

Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser
    50              55              60

Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asn Leu
65              70              75              80

Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile Asp Lys Arg Gln
            85              90              95

Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Thr Met Gly
            100             105             110
```

```
Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Thr Lys Glu Arg
        115                 120                 125

Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser Ser Asn Thr Asp
        130                 135                 140

Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys Ala Asp Ala Ile
145                 150                 155                 160

Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro Gln His Thr Val
                165                 170                 175

Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile Gln Leu Val Glu
                180                 185                 190

Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro Leu Gly Asp Gln
                195                 200                 205

Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met Ile Ala Ala Phe
        210                 215                 220

Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val Leu Ala Thr Gly
225                 230                 235                 240

Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly Val Glu Ala Ile
                245                 250                 255

Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met Arg Asp Met Gly
                260                 265                 270

Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile Ile Leu Phe Asn
        275                 280                 285

Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val Gln Val Leu Arg
        290                 295                 300

Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg Thr Thr His Pro
305                 310                 315                 320

Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ser Leu
                325                 330                 335

Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Tyr Lys Leu
                340                 345                 350

Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu Val Leu Glu Ser
        355                 360                 365

Ser Ser His Asp Val Gln Val Ala Thr
370                 375
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<210> 13
<211> 150
<212> DNA
<213> Lucilia cuprina

<220>
<221> CDS
<222> (9)..(134)

<400> 13
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         Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp
          1               5                  10

ttg aca tat gct tgt cgt gag gac aga aat tgc att ata gat aaa cga    98
Leu Thr Tyr Ala Cys Arg Glu Asp Arg Asn Cys Ile Ile Asp Lys Arg
 15               20                  25                  30

caa aga aat cgt tgc cag tat tgt cgc tac caa aag tgatcgatac cgtcga 150
Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys
                 35                  40


<210> 14
<211> 42
<212> PRT
<213> Lucilia cuprina

<400> 14
Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr
 1               5                  10                  15

Tyr Ala Cys Arg Glu Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg
             20                  25                  30

Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys
         35                  40


<210> 15
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
      useful as primer.

<220>
<221> misc_feature
<222> (1)..(32)
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<223> Nucleotides designated as "n" residues can be A,
      G, C or T residues.

<400> 15
cggaattccg cctcnggnta ycaytayaay gc   32

<210> 16
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Oligonucleotide
      useful as primer.

<400> 16
cgcggatccr cactcctgac actttcgyct ca   32

<210> 17
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Oligonucleotide
      useful as primer.

<400> 17
gcctcggggt atcactataa cgc   23

<210> 18
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Oligonucleotide
      useful as primer.

<400> 18
gcactcctga cactttcgtc tca   23

<210> 19
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Oligonucleotide
        useful as primer.

<400> 19
tcgtccggtt accattacaa cgc   23

<210> 20
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)..(24)
<223> Nucleotides designated as "n" residues can be A,
        G, C or T residues.

<400> 20
tagacctttg gcraaytcna caat   24